

### **REMARKS**

Claims 51-93 are pending in the instant application. Support for new Claim 80 can be found throughout the specification, for example, at Page 15, Lines 8-20, and original Claim 12. Support for new Claim 81 can be found throughout the specification, for example, at Page 15, Lines 8-20, Page 8, Lines 1-15, and original Claim 12. Support for new Claims 82 to 93 can be found throughout the specification are identical, other than their dependency, to pending Claims 52, 55, 59, 62, 69, 72, 74, and 75-79. Accordingly, no new matter is presented by this amendment. The specification and claim amendments are presented in a revised format per the USPTO's announcement 'Amendments in a Revised Format Now Permitted', signed 31 January 2002, and accordingly do not conform to the current reading of 37 C.F.R. §1.121, which Applicants understand has been waived. Accordingly, a complete listing of all claims that are, or were in the application, along with an appropriate status identifier, is provided above in the section entitled "Amendments to the Claims". Markings are provided on replacement paragraphs and claims amended in the present amendment.

### **Election/Restriction**

The Applicants acknowledge the Examiner's reclassification of the pending claims to class 435, subclass 6, and therefore withdraw their traversal of the Restriction Requirement mailed July 26, 2002.

### **Priority**

The instant application claims priority to USSN 09/639,311, filed 8/15/2000, now U.S. Patent No. 6, 291,188; USSN 08/808,750, filed 2/28/1997, now U.S. Patent No. 6,265,155; USSN 08/475,051, filed 6/7/1995, now U.S. Patent No. 5,824,473. In contrast to the Examiner's statement on page 3 of the pending office action, Applicant's have asserted

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that USSN 08/808,750 is a “continuing” application of USSN 08/475,051, not a “continuation” of USSN 08/475,051. As discussed in the MPEP at 201.11(II), “Continuing applications include those applications which are called divisions, continuations, and continuations-in-part.” Accordingly, the disclosure need not be identical between two continuing applications. However, the Examiner’s finding that the current application is entitled to the priority date of the 08/808,750 application for the instant claims is not disputed.

#### **Information Disclosure Statement**

The Examiner Objects to the Information Disclosure Statement filed on March 25, 2002. As all of the listed documents, excluding those previously reviewed by the Examiner, are enclosed with this response, accompanied by a PTO form 1449, withdrawal of this objection is respectfully requested.

#### **Specification**

The specification stands objected to due to informalities found on Page 29, Line 22. As the informalities have been removed by the above amendment to the specification, withdrawal of this objection is respectfully requested.

#### **Claim Objections**

Claims 51, 62, 67 and 68 stand objected to as including typographical errors. As the errors have been removed by the above amendment, withdrawal of these objections is respectfully requested.

### **Claim Rejections**

#### **A. 35 U.S.C. § 112, Second Paragraph**

Claim 51 stands rejected under § 112, second paragraph, as indefinite in its use of the term “electrode.” The term “electrode” is used at Page 32, Line 62, and, as discussed by the Examiner on Page 6 of the pending Office Action, does indeed refer to the solid support comprising a metallic surface. In addition, the Examiner states that the instant invention does not make use of electric fields, however Applicants respectfully submit that the agent capable of differentiating between single and double stranded nucleic acid may require the application of an electric field to function. Therefore, one possible embodiment of the invention would make use of electric fields as described by the Examiner. Accordingly, “electrode” is properly defined within the instant specification, withdrawal of this rejection is respectfully requested.

Claims 59 and 60 stand rejected under § 112, second paragraph, as lacking sufficient antecedent basis for the term “said blocking moiety.” In light of the amendment presented above, Applicants respectfully request withdrawal of this rejection.

Claim 61 stands rejected under § 112, second paragraph, as lacking sufficient antecedent basis for the term “said alkyl.” In light of the amendment presented above, Applicants respectfully request withdrawal of this rejection.

Claims 63 and 64 stand rejected under § 112, second paragraph, as lacking sufficient antecedent basis for the term “said blocking moieties.” In light of the amendment presented above, Applicants respectfully request withdrawal of this rejection.

Claim 74 stands rejected under § 112, second paragraph, as lacking sufficient antecedent basis for the term “said blocking moiety.” In light of the amendment presented above, Applicants respectfully request withdrawal of this rejection.

Claims 75-78 stand rejected under § 112, second paragraph, as lacking sufficient antecedent basis for the term “said linker.” In light of the amendment presented above, Applicants respectfully request withdrawal of this rejection.

**B. 35 U.S.C. § 102(e)**

Claims 51-58, 60-61, 64-74 and 79 stand rejected under 35 U.S.C. § 102(e) as anticipated by Wohlstadter et al. Wohlstadter et al. teach a method of target analyte detection employing a patterned multi-array, multi-specific (PMAMS) surface deposited upon a support. The PMAMS surface is modified to include a linking group “A”, such as biotin, avidin or streptavidin, and a complementary binding partner “B”. “B” is further linked to a binding reagent such as an antibody, antigen, nucleic acid, pharmaceutical or other suitable substance that will function to capture the target analyte. (See Column 17, Line 61 to Column 18, Line 26.) Detection of the target analyte’s capture can be achieved in a variety of ways, such as by employing electrochemical labels attached to the binding groups or target analytes. (See Column 34, Line 59 to Column 35, Line 24.) Accordingly, Wohlstadter teaches a 4-component system; (1) a PMAMS surface; (2) a linking group “A”; (3) a binding partner “B”; and (4) a binding reagent.

The instant invention is directed to methods of detecting a hybridization complex formed between a probe nucleic acid and a target nucleic acid. The method involves the use of a surface comprised of an array of regions, wherein each region is defined by an electrode

and a self-assembled mixed monolayer. In contrast to Wohlstadter, the instant invention makes use of a 3-component system; (1) a self-assembled monolayer; (2) a linker; and (3) a probe nucleic acid.

For an anticipation rejection under 35 U.S.C. §102(e) to be proper, a single reference must expressly or inherently disclose each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); MPEP § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)). As discussed above, Wohlstadter et al. recites a 4-component system, for the detection of target analytes. In contrast, the instant invention recites a 3 component system for the detection of target nucleic acids. As Wohlstadter et al. does not expressly or inherently disclose each and every element of the instant invention, withdrawal of this rejection is respectfully requested.

### **C. Double Patenting**

#### Claims 51, 52, 54, 70 and 72-74

Claims 51, 52, 54, 55, 70, 72 and 74-79 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 15 of U.S. Patent No. 6,265,155 in view of Yguerabide et al., *Anal. Biochem.*, 228, 208-220 (1995). As a terminal disclaimer in compliance with 37 CFR 1.321(c), directed to U.S. Patent No. 6,265,155, is submitted with this response, withdrawal of this rejection is respectfully requested.

#### Claims 51-64, 66-68, 70-72 and 74-79

Claims 51-64, 66-68, 70-72 and 74-79 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-25 and

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28-33 of U.S. Patent No. 6,291,188 in view of Yguerabide et al., Anal. Biochem., 228, 208-220 (1995). As a terminal disclaimer in compliance with 37 CFR 1.321(c), directed to U.S. Patent No. 6,291,188, is submitted with this response, withdrawal of this rejection is respectfully requested.

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**CONCLUSION**

Applicants respectfully submit that the claims are in condition for allowance and early notification to that effect is respectfully requested. Please direct any calls in connection with this application to the undersigned attorney at (415) 781-1989.

Respectfully submitted,

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